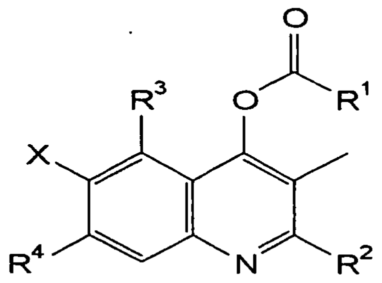
CLAIMS

1. A compound represented by formula (I) or a salt thereof:



(I)

wherein

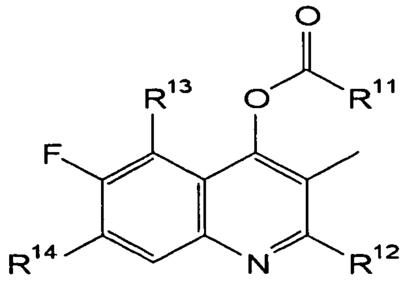
R^1 represents alkyl having 1 to 6 carbon atoms optionally substituted by a halogen atom or cyano; alkenyl having 2 to 6 carbon atoms optionally substituted by a halogen atom or cyano; alkynyl having 2 to 6 carbon atoms optionally substituted by a halogen atom or cyano; group $-O-R^5$ wherein R^5 represents alkyl having 1 to 6 carbon atoms optionally substituted by a halogen atom or cyano, alkenyl having 2 to 6 carbon atoms optionally substituted by a halogen atom or cyano, or alkynyl having 2 to 6 carbon atoms optionally substituted by a halogen atom or cyano; or group $-S-R^5$ wherein R^5 is as defined above,

R^2 represents alkyl having 1 to 4 carbon atoms optionally substituted by a halogen atom,

any one of R^3 and R^4 represents a hydrogen atom and the other represents a fluorine atom, a chlorine atom, a bromine atom, or $-CF_3$, and

X represents a fluorine atom or a chlorine atom.

2. The compound according to claim 1, represented by formula (Ia):



(Ia)

wherein R^{11} represents alkyl having 1 to 4 carbon atoms optionally substituted by a halogen atom or alkoxy having 1 to 4 carbon atoms optionally substituted by a halogen atom; R^{12} represents alkyl having 1 to 4 carbon atoms optionally substituted by a halogen atom; and any one of R^{13} and R^{14} represents a hydrogen atom and the other represents a fluorine or chlorine atom.

3. The compound according to claim 1, selected from the group consisting of:

(2) 2-ethyl-3-methyl-4-cyclopropanecarbonyloxy-5,6-difluoroquinoline;

(19) 2-ethyl-3-methyl-4-acetyloxy-5-chloro-6-fluoroquinoline;

(24) 2-ethyl-3-methyl-4-methoxycarbonyloxy-5,6-difluoroquinoline;

(25) 2,3-dimethyl-4-methoxycarbonyloxy-5,6-difluoroquinoline;

(39) 2-ethyl-3-methyl-4-methanethiolcarbonyloxy-5,6-difluoroquinoline;

(41) 2-ethyl-3-methyl-4-propargyloxycarbonyloxy-5,6-difluoroquinoline;

(44) 2,3-dimethyl-4-acetoxy-5,6-difluoroquinoline;

(46) 2,3-dimethyl-4-methanethiolcarbonyloxy-5,6-difluoroquinoline;

(50) 2,3-dimethyl-4-propargyloxycarbonyloxy-5,6-difluoroquinoline;

(52) 2,3-dimethyl-4-(3-butynyl)oxycarbonyloxy-5,6-difluoroquinoline;

(56) 2-ethyl-3-methyl-4-(3-butynyl)oxycarbonyloxy-

5,6-difluoroquinoline;

(57) 2,3-dimethyl-4-allyloxycarbonyloxy-5,6-difluoroquinoline;

(65) 2,3-dimethyl-4-acetoxy-5,6-dichloroquinoline; and

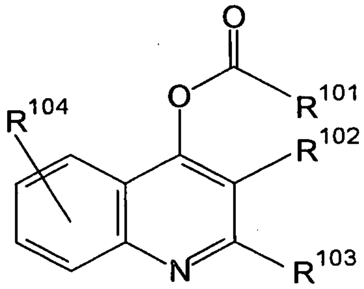
(67) 2,3-dimethyl-4-methoxycarbonyloxy-5,6-dichloroquinoline.

4. An ectoparasite control agent for mammals and birds, comprising as active ingredient the compound according to any one of claims 1 to 3.

5. Use of the compound according to any one of claims 1 to 3, for the manufacture of an ectoparasite control agent for mammals and birds.

6. A method for controlling an ectoparasite, comprising the step of administering an effective amount of the compound according to any one of claims 1 to 3 to a mammal or a bird.

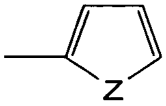
7. An ectoparasite control agent for mammals and birds, comprising a compound represented by formula (100) or a salt thereof:



(100)

wherein

R^{101} represents a hydrogen atom; alkyl having 1 to 18 carbon atoms; alkenyl having 2 to 18 carbon atoms; cycloalkyl having 3 to 10 carbon atoms, which is optionally substituted by a halogen atom, alkyl having 1 to 4 carbon atoms, or alkenyl having 2 to 4 carbon atoms; alkyl having 1 to 4 carbon atoms substituted by phenyl; alkyl having 1 to 4 carbon atoms substituted by phenoxy; aryl; -O-R^{105} wherein R^{105} represents alkyl having 1 to 4 carbon atoms or aryl; or



wherein Z represents –S– or –O–,

R^{102} represents a hydrogen atom or alkyl having 1 to 4 carbon atoms,

R^{103} represents alkyl having 1 to 10 carbon atoms or alkenyl having 2 to 4 carbon atoms, or R^{102} and R^{103} together form -$(CH_2)m$- wherein m is 3 or 4,

provided that, when R^{102} represents a hydrogen atoms and R^{103} represents methyl, R^{101} does not represent -O-R^{105}, and

R^{104} represents a hydrogen atom; one to four halogen atoms, which may be the same or different; alkyl having 1 to 4 carbon atoms; or alkoxy having 1 to 4 carbon atoms,

provided that, when R^{101} represents methyl, R^{102}, R^{103}, and R^{104} do not represent a hydrogen atom.

8. The control agent according to claim 7, wherein the ectoparasite is selected from the group consisting of Anoplura, Siphonaptera, and Mesostigmata.

9. Use of the compound represented by formula (100) or salt thereof according to claim 7, for the manufacture of an ectoparasite control agent for mammals and birds.

10. The use according to claim 9, wherein the ectoparasite is selected from the group consisting of Anoplura, Siphonaptera, and Mesostigmata.

11. A method for controlling an ectoparasite, comprising the step of administering an effective amount of the compound represented by formula (100) or salt thereof according to claim 7 to a mammal or a bird.

12. The method according to claim 11, wherein the ectoparasite is selected from the group consisting of Anoplura, Siphonaptera, and Mesostigmata.